



# STIC Search Report

**EIC 2100**

STIC Database Tracking Number: 114164

**TO: Aaron Strange  
Location: 3C16  
Art Unit : 2153  
Friday, February 13, 2004**

**Case Serial Number: 09/670157**

**From: David Holloway  
Location: EIC 2100  
PK2-4B30  
Phone: 308-7794**

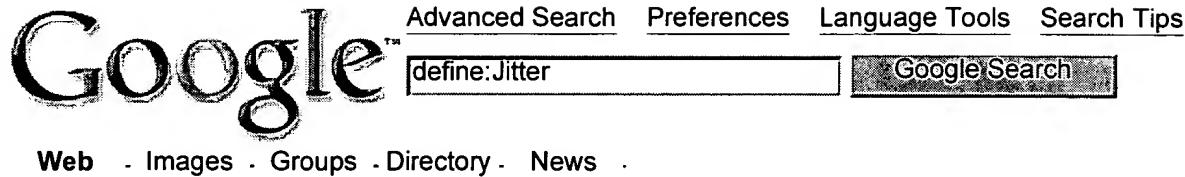
**david.holloway@uspto.gov**

## Search Notes

Dear Examiner Strange,

Attached please find your search results for above-referenced case.  
Please contact me if you have any questions or would like a re-focused search.

David



width or pulse position) and in quantitative terms (e.g., average, RMS, or peak-to-peak). Note 2: The low-frequency cutoff for jitter is usually specified at 1 Hz. Contrast with drift, wander.  
[www.bandwidthmarket.com/resources/glossary/J1.html](http://www.bandwidthmarket.com/resources/glossary/J1.html)

A measure of the short term frequency stability of the oscillator. It applies only to rectangular wave forms. It is measured as the uncertainty in the location of one edge of the signal with respect to other edges. It is usually specified in units of time (nano-seconds or pico-seconds), but may also be specified in degrees. This measurement has particular application to the digital communications industry.

[www.hy-q.com.au/oscillators/osc-glossary.htm](http://www.hy-q.com.au/oscillators/osc-glossary.htm)

Temporal variation in a signal from an ideal reference clock. There are many kinds of jitter, including sample jitter, channel jitter, and interface jitter.  
[www.dvdmaadeeasy.com/glossary/j.html](http://www.dvdmaadeeasy.com/glossary/j.html)

Small and rapid variations in the timing of a waveform due to noise, changes in component characteristics, supply voltages, imperfect synchronizing circuits, etc. See also DDJ, DCD, and RJ.  
[www.fiber-optics.info/glossary-ijk.htm](http://www.fiber-optics.info/glossary-ijk.htm)

The slight movement of a transmission signal in time or phase that can introduce errors & loss of synchronization in high speed synchronous communications.  
[www.connectworld.net/iec/Browse02/GLSJ.html](http://www.connectworld.net/iec/Browse02/GLSJ.html)

Jitter is the variance of latency (i.e. delay) in a connection. The problem is that audio devices or connection-oriented systems (e.g. ISDN or PSTN) need a continuous stream of data. In order to compensate for this, VoIP terminals and gateways implement a jitter buffer that collect the packets before relaying them onto their audio devices or connection-oriented lines (e.g. ISDN), respectively. An increase in the jitter buffer size decreases the likelihood of data being missed but also has the drawback that it increases latency of a connection.

[www.nikotel.net/glossary](http://www.nikotel.net/glossary)

In telecommunications, analog communication line distortion caused by the variation of a signal from its reference timing positions. Jitter can cause data loss, particularly at high speeds.  
[www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cdm/cdm34/cdmobj/06objcgl.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cdm/cdm34/cdmobj/06objcgl.htm)

In ATM, the Cell Delay Variation (CDV). In a more general context, this is the variation of a frequency supposed to be stable.  
[www2.themanualpage.org/glossary/glo\\_j.php3](http://www2.themanualpage.org/glossary/glo_j.php3)

The deviation of a transmission signal in time or phase. It can introduce errors and loss of synchronization in high-speed synchronous communications.  
[www.oly-tech.com/vtcglossary.html](http://www.oly-tech.com/vtcglossary.html)

Jitter is a short term instability of the amplitude and/or phase of a signal. It is commonly called Phase Jitter.  
[education.icn.siemens.com/doc/jobaids/glossary/test\\_J.htm](http://education.icn.siemens.com/doc/jobaids/glossary/test_J.htm)

Deviation from the original being copied.  
[www.plextor.com/english/news/glossary.html](http://www.plextor.com/english/news/glossary.html)

The timing uncertainty of the signal crossing zero voltage. 2  
[www.relcominc.com/carrier-band/handbook/glossary.htm](http://www.relcominc.com/carrier-band/handbook/glossary.htm)

Small vibrations or fluctuations in a displayed image caused by irregularities in the display signal.  
[www.dsea.com/glossary/html/glossary1.html](http://www.dsea.com/glossary/html/glossary1.html)

Short-term (intra packet) instability of an electrical signal caused by electrical or mechanical

changes. Commonly called phase jitter.  
[www.watersnet.com/watersnet/tech/glossary.html](http://www.watersnet.com/watersnet/tech/glossary.html)

small rapid variations in a waveform resulting from fluctuations in the voltage supply or mechanical vibrations or other sources  
[www.cogsci.princeton.edu/cgi-bin/webwn](http://www.cogsci.princeton.edu/cgi-bin/webwn)

define:Jitter

Google Search

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Set	Items	Description
S1	362	AU=(SUNDARAM R? OR SUNDARAM, R?)
S2	2	AU=(KANIYAR S? OR KANIYAR, S?)
S3	0	S1 AND S2
S4	0	(S1 OR S2) AND JITTER?
File 2:	INSPEC 1969-2004/Feb W1	
		(c) 2004 Institution of Electrical Engineers
File 6:	NTIS 1964-2004/Feb W2	
		(c) 2004 NTIS, Intl Cpyrght All Rights Res
File 8:	Ei Compendex(R) 1970-2004/Feb W1	
		(c) 2004 Elsevier Eng. Info. Inc.
File 34:	SciSearch(R) Cited Ref Sci 1990-2004/Feb W2	
		(c) 2004 Inst for Sci Info
File 35:	Dissertation Abs Online 1861-2004/Jan	
		(c) 2004 ProQuest Info&Learning
File 65:	Inside Conferences 1993-2004/Feb W2	
		(c) 2004 BLDSC all rts. reserv.
File 636:	Gale Group Newsletter DB(TM) 1987-2004/Feb 13	
		(c) 2004 The Gale Group
File 275:	Gale Group Computer DB(TM) 1983-2004/Feb 13	
		(c) 2004 The Gale Group

Set	Items	Description
S1	81	AU=(SUNDARAM R? OR SUNDARAM, R?)
S2	7	AU=(KANIYAR S? OR KANIYAR, S?)
S3	0	S1 AND S2
S4	10	(S1 OR S2) AND IC=G06F-015?
S5	10	IDPAT (sorted in duplicate/non-duplicate order)
S6	9	IDPAT (primary/non-duplicate records only)

File 347:JAPIO Oct 1976-2003/Oct (Updated 040202)

(c) 2004 JPO & JAPIO

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200410

(c) 2004 Thomson Derwent

File 348:EUROPEAN PATENTS 1978-2004/Feb W01

(c) 2004 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20040205, UT=20040129

(c) 2004 WIPO/Univentio

6/5/1 (Item 1 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015933708 \*\*Image available\*\*  
WPI Acc No: 2004-091549/200409  
XRPX Acc No: N04-073314

**Web site cloaking method, involves shielding content providers origin server from Internet protocol traffic routed over public Internet, and delivering content published at server from content delivery network region**

Patent Assignee: AKAMAI TECHNOLOGIES INC (AKAM-N)  
Inventor: AFERGAN M M; ELLIS A B; RAHUL H S; SUNDARAM R  
Number of Countries: 104 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200406113	A1	20040115	WO 2003US21326	A	20030709	200409 B

Priority Applications (No Type Date): US 2002191309 A 20020709

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200406113	A1	E	21	G06F-015/16	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 200406113 A1

NOVELTY - The method involves shielding a content providers origin server from Internet protocol (IP) traffic routed over a public Internet. The server is shielded by restricting access to the server except through a private IP address space and restricting IP spoofing for addresses within the space. The content published at the server on behalf of participating content providers is delivered from a content delivery network region.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a web site comprising an origin server, a firewall and router connectable to a publicly-routable Internet.

USE - Used for cloaking a Web site from public Internet threats.

ADVANTAGE - The method cloaks the web site origin server from the public Internet threats while still ensuring quick delivery of the content available from the site without fail, regardless of a user location.

DESCRIPTION OF DRAWING(S) - The drawing shows a content delivery network tiered distribution scheme.

Edge servers (302a-302n)

End users (306a-306n)

pp; 21 DwgNo 3/5

Title Terms: WEB; SITE; METHOD; SHIELD; CONTENT; ORIGIN; SERVE; PROTOCOL; TRAFFIC; ROUTE; PUBLIC; DELIVER; CONTENT; SERVE; CONTENT; DELIVER; NETWORK; REGION

Derwent Class: T01

International Patent Class (Main): G06F-015/16

File Segment: EPI

6/5/2 (Item 2 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
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015813501 \*\*Image available\*\*  
WPI Acc No: 2003-875705/200381  
XRPX Acc No: N03-699234

**Computing tasks offloading method in networked application, involves**

transmitting network stack state object and buffers from software and switch layers to peripheral device, when offloading is accepted by peripheral device

Patent Assignee: MICROSOFT CORP (MICT )

Inventor: GHADEGESIN A; KANIYAR S ; PINKERTON J; SRINIVAS N K; GBADEGESIN A; SRINIVAS N

Number of Countries: 033 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030204634	A1	20031030	US 2002135489	A	20020430	200381 B
EP 1359724	A1	20031105	EP 20037902	A	20030407	200381
JP 2003333076	A	20031121	JP 2003124294	A	20030428	200402

Priority Applications (No Type Date): US 2002135489 A 20020430

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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US 20030204634	A1	22	G06F-015/16	
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EP 1359724	A1 E		H04L-029/06	
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Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

JP 2003333076	A	24	H04L-012/56	
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Abstract (Basic): US 20030204634 A1

NOVELTY - A request with resource requirements to offload network stack state object from a switch layer to a peripheral device, is transmitted through software layers to the peripheral device. An offload handle is received by one software layer in response, and the network stack state object is sent to peripheral device from the software layer, while buffers are transferred to the peripheral device from the switch layer during offloading.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for computer readable medium storing computing task offloading program.

USE - In computer system for offloading computing tasks performed by host computer to peripheral device e.g. network interface cards (NICs) in networked application and distributed computing application.

ADVANTAGE - The offloading increases efficiency, speed and throughput of the computer system. Maintains tight synchronization between host processing unit and peripheral devices.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the functional layers of network driver interface specification and bypass path.

NIC (170)

network stack (202)

chimney (308)

pp; 22 DwgNo 3/9

Title Terms: COMPUTATION; TASK; METHOD; APPLY; TRANSMIT; NETWORK; STACK; STATE; OBJECT; BUFFER; SOFTWARE; SWITCH; LAYER; PERIPHERAL; DEVICE; ACCEPT; PERIPHERAL; DEVICE

Derwent Class: T01

International Patent Class (Main): G06F-015/16 ; H04L-012/56; H04L-029/06

International Patent Class (Additional): G06F-013/00

File Segment: EPI

6/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015813500 \*\*Image available\*\*

WPI Acc No: 2003-875704/200381

XRPX Acc No: N03-699233

Off-loaded network stack state object uploading method in computer system, involves commanding intermediate layer to control received delegated-state variable and sending network data to peripheral device hardware

Patent Assignee: MICROSOFT CORP (MICT )

Inventor: GBADEGESIN A; KANIYAR S ; PINKERTON J; SRINIVAS N K; SRINIVAS N

Number of Countries: 034 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030204631	A1	20031030	US 2002135630	A	20020430	200381 B
CA 2425706	A1	20031030	CA 2425706	A	20030414	200381
EP 1361512	A2	20031112	EP 20039321	A	20030424	200382
JP 2004030612	A	20040129	JP 2003125928	A	20030430	200410

Priority Applications (No Type Date): US 2002135630 A 20020430

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 20030204631	A1	24		G06F-015/16	
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CA 2425706	A1	E		H04L-029/10	
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EP 1361512	A2	E		G06F-009/46	
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Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR  
JP 2004030612 A 37 G06F-013/00

Abstract (Basic): US 20030204631 A1

NOVELTY - An intermediate software layer in a network stack (202), is commanded to take-over the control of a delegated-state variable after receiving the delegated-state variable. The network data received from an application (200) is sent through a network driver interface specification (NDIS) mini driver (310) to a peripheral device hardware (314).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) method of synchronizing off-loaded network state object between host and peripheral device;
- (2) computer readable medium storing off-loaded network stack state object uploading program;
- (3) computer readable medium storing off-loaded network stack state object synchronization program;
- (4) method to conserve resources in peripheral device;
- (5) computer readable medium storing resource conservation program;
  
- (6) method to obtain statistics for network stack; and
- (7) computer readable medium storing network stack statistics generation program.

USE - For use in computer systems for uploading computing tasks performed by host processor that has been off-loaded to specific hardware components such as network interface cards (NICs).

ADVANTAGE - Increases the efficiency, speed and throughput of the computer systems. Enables maintaining light synchronization between host processors and peripheral devices.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the functional layers of the network driver interface specification (NDIS) path and the bypass path.

application (200)  
network stack (202)  
NDIS mini driver (310)  
peripheral device hardware (314)  
pp; 24 DwgNo 3/9

Title Terms: LOAD; NETWORK; STACK; STATE; OBJECT; METHOD; COMPUTER; SYSTEM; COMMAND; INTERMEDIATE; LAYER; CONTROL; RECEIVE; STATE; VARIABLE; SEND; NETWORK; DATA; PERIPHERAL; DEVICE; HARDWARE

Derwent Class: T01

International Patent Class (Main): G06F-009/46; G06F-013/00; G06F-015/16 ;  
H04L-029/10

International Patent Class (Additional): G06F-013/42; G06F-015/17 ;  
H04L-012/16

File Segment: EPI

6/5/4 (Item 4 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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015661531 \*\*Image available\*\*

WPI Acc No: 2003-723718/2369

XRPX Acc No: N03-578692

Symmetrical multiprocessing implementation method for multiprocessor system applies mapping algorithm to received Internet data packet to obtain map value for application to processor selection policy

Patent Assignee: MICROSOFT CORP (MICKT )

Inventor: DABAGH A; KANIYAR S N ; MURCHING A; SETHI B S; SRINIVAS N

Number of Countries: 032 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1349065	A2	20031001	EP 20036144	A	20030318	200369 B
US 20030187914	A1	20031002	US 2002112812	A	20020329	200372

Priority Applications (No Type Date): US 2002112812 A 20020329

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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EP 1349065	A2	E	25 G06F-009/46	
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Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

US 20030187914	A1	G06F-015/16
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Abstract (Basic): EP 1349065 A2

NOVELTY - A mapping algorithm is applied to a data packet received by the multiprocessor system (100a,b) from a client (110a-f), to yield a map value. The map value is then applied to a processor selection policy which uses a load-balancing algorithm to select a processor to perform receive-side processing of the data packet. The data packet is directed into a queue for the selected processor.

DETAILED DESCRIPTION - The mapping algorithm is a hashing function and the map value is a hash value.

INDEPENDENT CLAIMS are also included for ;

(1) Stored software.

(2) A framework for scheduling receive-side processing of data packets in a multiprocessor system.

USE - For systematically partitioning Input/Output (I/O) tasks for network connections across processors in a multiprocessor system (and vice-versa).

ADVANTAGE - The connection state lives on a single processor for the lifetime of a network connection, ensuring that I/O tasks associated with a particular connection are processed by the same processor.

DESCRIPTION OF DRAWING(S) - The drawing shows a block diagram of a networked computer system.

multiprocessor system (100a,b,)

client (110a-f)

Internet (115)

pp; 25 DwgNo 1/10

Title Terms: SYMMETRICAL; MULTIPROCESSOR; IMPLEMENT; METHOD; MULTIPROCESSOR ; SYSTEM; APPLY; MAP; ALGORITHM; RECEIVE; DATA; PACKET; OBTAIN; MAP; VALUE; APPLY; PROCESSOR; SELECT

Derwent Class: T01

International Patent Class (Main): G06F-009/46; G06F-015/16

File Segment: EPI

6/5/5 (Item 5 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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015494852 \*\*Image available\*\*

WPI Acc No: 2003-556999/200352

XRPX Acc No: N03-442633

Communication timer management framework for transmission control protocol used in e-mail service, receives new schedule and adds reference to status structure, when status structure is not currently referenced on timer

Patent Assignee: MICROSOFT CORP (MICKT )

Inventor: COX S D; GBADEGESIN A; KANIYAR S N ; SETHI B S; SRINIVAS N

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030084175	A1	20030501	US 2001999132	A	20011101	200352 B

Priority Applications (No Type Date): US 2001999132 A 20011101

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030084175	A1	14		G06F-015/16	

Abstract (Basic): US 20030084175 A1

NOVELTY - The framework has several connection status structures, each of which supports timers associated with a connection in an active connection timer structure(206). A schedule action handler (208) that receives new action scheduled on the connection adds a reference to each connection status structure, only when the status structure is not currently referenced on the timer structure.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) network communications protocol action scheduling timers handling method;
- (2) computer readable recorded medium storing network communications protocol action scheduling timers handling program; and
- (3) network communications protocol action scheduling timers handling program.

USE - For handling timers associated with network communications protocols e.g. transmission control protocols (TCP) used in web-based e-mail and instant messaging service.

ADVANTAGE - Avoids scanning of large portion of timer transmission structures. Reduces CPU loading associated with timer transmission structures by checking only the timer transmission structures with scheduled action, thereby improving server performance.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic view of the communication timer management framework.

server (200)  
timer management framework (204)  
active connection timer structure (206)  
handler (208)  
pp; 14 DwgNo 2/6

Title Terms: COMMUNICATE; TIME; MANAGEMENT; FRAMEWORK; TRANSMISSION; CONTROL; PROTOCOL; MAIL; SERVICE; RECEIVE; NEW; SCHEDULE; ADD; REFERENCE; STATUS; STRUCTURE; CURRENT; REFERENCE; TIME

Derwent Class: T01; T05; W01

International Patent Class (Main): G06F-015/16

International Patent Class (Additional): G06F-013/10

File Segment: EPI

6/5/6 (Item 6 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014956754 \*\*Image available\*\*

WPI Acc No: 2003-017268/200301

XRPX Acc No: N03-013162

File download time prediction method for directing traffic to mirrored web site, involves computing exponentially time-weighted average of network performance data, that is generated from test probes provided in network

Patent Assignee: BERGER A W (BERG-I); HANONO-WACHMAN S (HANO-I); LEIGHTON F T (LEIG-I); LEVINE M (LEVI-I); PARKER A (PARK-I); SOVIANI A (SOVI-I); SUNDARAM R (SUND-I)

Inventor: BERGER A W; HANONO-WACHMAN S; LEIGHTON F T; LEVINE M; PARKER A; SOVIANI A; SUNDARAM R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020124080	A1	20020905	US 2000208013	A	20000526	200301 B

Priority Applications (No Type Date): US 2000208013 P 20000526; US 2001867141 A 20010530

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
US 20020124080 A1 15 G06F-015/173 Provisional application US 2000208013

Abstract (Basic): US 20020124080 A1

NOVELTY - A test probe from a server is periodically initiated to a given point in a network such as Internet. Network performance data generated from the test probes is collected. An exponentially time-weighted average of the network performance data is computed, based on which a value indicative of the file download time is generated.

USE - For predicting file download time to direct traffic to mirrored web site, for global load balancing and also applicable to direct caches to storage servers, to direct streaming servers to signal acquisition points, to direct logging processes to log archiving servers, to direct mail processes to mail servers, etc.

ADVANTAGE - Requires very little state for keeping track of the time series and is able to compute a new estimate without having any restriction in the file sizes and download types, by using exponentially time-weighted average of network performance data.

DESCRIPTION OF DRAWING(S) - The figure shows a representative trace route generated during the core point discovery process.

pp; 15 DwgNo 7/7

Title Terms: FILE; TIME; PREDICT; METHOD; DIRECT; TRAFFIC; MIRROR; WEB; SITE; COMPUTATION; EXPONENTIAL; TIME; WEIGHT; AVERAGE; NETWORK; PERFORMANCE; DATA; GENERATE; TEST; PROBE; NETWORK

Derwent Class: T01

International Patent Class (Main): G06F-015/173

File Segment: EPI

6/5/7 (Item 7 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014796715 \*\*Image available\*\*

WPI Acc No: 2002-617421/200266

Related WPI Acc No: 2002-268434

XRPX Acc No: N02-488620

Network map generation method for directing traffic to mirrored website, involves assigning Internet protocol address of common routing point as core point in address space of local server

Patent Assignee: LEIGHTON F T (LEIG-I); LEVINE M (LEVI-I); SOVIANI A (SOVI-I); SUNDARAM R (SUND-I)

Inventor: LEIGHTON F T; LEVINE M; SOVIANI A; SUNDARAM R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020078237	A1	20020620	US 2000207518	A	20000526	200266 B
			US 2000208014	A	20000526	
			US 2001866884	A	20010529	

Priority Applications (No Type Date): US 2001866884 A 20010529; US 2000207518 P 20000526; US 2000208014 P 20000526

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
US 20020078237 A1 14 G06F-015/173 Provisional application US 2000207518

Provisional application US 2000208014

Abstract (Basic): US 20020078237 A1

NOVELTY - A route from each of the two data centers to a specified local server is executed and an intersection of the routes at a common routing point is located. An Internet protocol (IP) address of the

common routing point assigned as a core point in the address space of the local server.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) Content request routing map generation method; and
- (2) Mirror site determination map generation method.

USE - For creating network maps used in directing traffic to mirrored websites, directing caches to storage servers, directing streaming servers to signal acquisition points, directing logging process to log archiving servers, directing mail processes to mail server, etc.

ADVANTAGE - Reduces size of the network map and enables intelligent traffic redirection load balancing for local server by creating a generalized core point.

DESCRIPTION OF DRAWING(S) - The figure shows the global traffic management system.

pp; 14 DwgNo 2/8

Title Terms: NETWORK; MAP; GENERATE; METHOD; DIRECT; TRAFFIC; MIRROR; ASSIGN; PROTOCOL; ADDRESS; COMMON; ROUTE; POINT; CORE; POINT; ADDRESS; SPACE; LOCAL; SERVE

Derwent Class: T01; W01

International Patent Class (Main): G06F-015/173

File Segment: EPI

6/5/8 (Item 8 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014447731 \*\*Image available\*\*

WPI Acc No: 2002-268434/200231

Related WPI Acc No: 2002-617421

XRPX Acc No: N02-208897

Global load balancing across mirrored data centers, identifying set of proxy points, where proxy point represents given point in Internet at which trace originating from mirror sites directed toward given name server intersect

Patent Assignee: AKAMAI TECHNOLOGIES INC (AKAM-N); DHANIDINA R S (DHAN-I); KLEINBERG R (KLEI-I); LEIGHTON F T (LEIG-I); LEVINE M (LEVI-I); LEWIN D M (LEWI-I); MAGGS B (MAGG-I); PARIKH J G (PARI-I); RAHUL H S (RAHU-I); SOVIANI A M (SOVI-I); SUNDARAM R (SUND-I); THIRUMALAI S (THIR-I); YERUSHALMI Y O (YERU-I)

Inventor: DHANIDINA R S; KLEINBERG R; KORUPOLU M R; LEIGHTON F T; LEVINE M; LEWIN D M; MAGGS B; PARIKH J G; RAHUL H S; SOVIANI A; SUNDARAM R; THIRUMALAI S; YERUSHALMI Y O; SOVIANI A M

Number of Countries: 097 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200193530	A2	20011206	WO 2001US17176	A	20010525	200231 B
AU 200165051	A	20011211	AU 200165051	A	20010525	200231
US 20020129134	A1	20020912	US 2000208014	P	20000526	200262
			US 2001866897	A	20010529	
EP 1290853	A2	20030312	EP 2001939545	A	20010525	200320
			WO 2001US17176	A	20010525	

Priority Applications (No Type Date): US 2000208014 P 20000526; US 2001866897 A 20010529

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200193530	A2	E	33	H04L-029/06	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200165051	A	H04L-029/06	Based on patent WO 200193530
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US 20020129134	A1	G06F-015/173	Provisional application US 2000208014
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EP 1290853 A2 E H04L-029/06 Based on patent WO 200193530  
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200193530 A2

NOVELTY - The method involves identifying a set of proxy points, where each proxy point represents a given point in the Internet at which a trace originating from each of a set of mirror sites directed toward a given name server intersect. The proxy points are probed to generate given data. A download predictor score is generated for each mirror site based on the given data. An identification is made for which mirror provides a best download performance based on the download predictor score. A given name server IP address is associated with the identified mirror site. In response to an end user's initial content request to a given local name server, an IP address of the identified mirror site is returned.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for of routing a user's initial request to a content provider web site which is replicated at a set of mirror sites, and a method for managing global traffic redirection for a set of content providers operating mirrored sites.

USE - For high performance, fault tolerant content delivery. For balancing loads from mirrored data centers within a global computer network.

ADVANTAGE - Does not have any restriction of range of file sizes and download types and it makes intelligent use of ICMP probes of different sizes to effectively estimate packet loss.

DESCRIPTION OF DRAWING(S) - The figure shows high level illustration of the components of the GTM service.

pp; 33 DwgNo 2/7

Title Terms: GLOBE; LOAD; BALANCE; MIRROR; DATA; CENTRE; IDENTIFY; SET; POINT; POINT; REPRESENT; POINT; TRACE; ORIGIN; MIRROR; SITE; DIRECT; NAME; SERVE; INTERSECT

Derwent Class: W01

International Patent Class (Main): G06F-015/173 ; H04L-029/06

International Patent Class (Additional): G06F-017/30; H04L-029/12

File Segment: EPI

6/5/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX  
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014133659

WPI Acc No: 2001-617870/200172

XRPX Acc No: N01-460797

Plug and play computer system has configuration notification program that produces visual display informing user about suitable time for connecting peripheral device to computer

Patent Assignee: FUJITSU LTD (FUIT )

Inventor: MIYAZAKI T; SUNDARAM R ; YAMADA I

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 10061991	A1	20010628	DE 1061991	A	20001213	200172 B
JP 2001222502	A	20010817	JP 2000384611	A	20001219	200172

Priority Applications (No Type Date): US 99467569 A 19991220

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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DE 10061991	A1	38		G06F-015/177	
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JP 2001222502	A	15		G06F-013/10	
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Abstract (Basic): DE 10061991 A1

NOVELTY - A configuration notification program enables the reception of messages, and produces a visual display informing a user about the suitable time for connecting a peripheral device to a

computer. The configuration notification program is stored in the computer with a visual display and an external serial bus port.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) a computer system for improving the reliability in a plug and play peripheral device for universal serial bus interface;
- (b) a method for providing a notification concerning the status of the configuration process of the operating system of a computer;
- (c) a method for informing a computer user concerning the status of a reconfiguration process;
- (d) and a method for reducing the frequency of crashes of a universal serial bus in a computer system.

USE - Plug and play computer system.

ADVANTAGE - Improves reliability of configuration process for computer to which peripheral devices are connected over a serial bus interface. Provides user with real time information regarding the suitable time of peripheral device connection or the removal of the peripheral device.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic diagram of the plug and play computer system. (Drawing includes non-English language text).

pp; 38 DwgNo 0/15

Title Terms: PLUG; PLAY; COMPUTER; SYSTEM; CONFIGURATION; NOTIFICATION; PROGRAM; PRODUCE; VISUAL; DISPLAY; INFORMATION; USER; SUIT; TIME; CONNECT ; PERIPHERAL; DEVICE; COMPUTER

Derwent Class: T01

International Patent Class (Main): G06F-013/10; **G06F-015/177**

International Patent Class (Additional): G06F-013/14

File Segment: EPI

Set	Items	Description
S1	137982	JITTER? OR LATENC? OR DISTORT? OR TEMPORAL() (SHIFT? OR VARIATION?)
S2	1465833	NETWORK? OR TRANSMISS? OR WAN OR INTERNET? OR INTRANET? OR HTTP? OR TCP? OR PACKET?
S3	210526	TIMESTAMP? OR TIME()STAMP? OR DATESTAMP? OR DATE()STAMP? OR TIMING?
S4	2087313	MEASUR? OR DURATION? OR INTERVAL? OR PERIOD?
S5	31624	PASSIVE? OR NONINTRUSIV? OR ("NOT" OR NON) () (EMBED? OR INTEGRAL? OR INTERNAL OR INTRUSIV?)
S6	2423110	SEPARAT? OR EXTERNAL? OR OUTSIDE? OR UNATTACH?
S7	108	S1 AND S2 AND S3 AND (S5 OR S6)
S8	16	S1(3N)S2 AND S5
S9	124	S7 OR S8
S10	1	S9 AND IC=G06F-015?
S11	124	S8 OR S9
S12	46	S11 AND (CALCULAT? OR DETERMIN? OR ESTIMAT? OR FORMULA? OR PREDICT? OR MEASUR?)
S13	11	S12 AND (PACKET? OR DATAGRAM? OR DATA()TRANSMISSION? OR HTTP?)
S14	11	IDPAT (sorted in duplicate/non-duplicate order)
S15	11	IDPAT (primary/non-duplicate records only)

File 347:JAPIO Oct 1976-2003/Oct (Updated 040202)  
(c) 2004 JPO & JAPIO

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200410  
(c) 2004 Thomson Derwent

15/5/1 (Item 1 from File: 350)  
DIALOG(R) File 350:Derwent WPIX  
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015544730 \*\*Image available\*\*  
WPI Acc No: 2003-606886/200357  
XRPX Acc No: N03-483896

**Quality of service determination system for packet communication network, has collector correlator that measures dropped packets, delay time and jitter, based on report packet transmitted from passive probes**

Patent Assignee: HERSCHELB G (HERS-I); JOBSON R G (JOBS-I)

Inventor: HERSCHELB G; JOBSON R G

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030107990	A1	20030612	US 200121853	A	20011212	200357 B

Priority Applications (No Type Date): US 200121853 A 20011212

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20030107990	A1	9	H04J-001/16	

Abstract (Basic): US 20030107990 A1

NOVELTY - **Passive** probes are attached to multiple network connections in a **packet** communication network. A collector correlator transmits a control information **packet** and **measures** dropped **packets**, delay time, **jitter** and **packet** re-ordering, based on input **packet** transmitted from the **passive** codes.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for quality of service **determination** method.

USE - For **determining** quality of service of **packet** communication network.

ADVANTAGE - **Measures** the quality of service efficiently, without adding overhead to the data traffic on the **packet** communication network.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the probe.

pp; 9 DwgNo 2/4

Title Terms: QUALITY; SERVICE; DETERMINE ; SYSTEM; PACKET ; COMMUNICATE; NETWORK; COLLECT; CORRELATE; MEASURE ; DROP; PACKET ; DELAY; TIME; JITTER; BASED; REPORT; PACKET ; TRANSMIT; PASSIVE ; PROBE

Derwent Class: W01

International Patent Class (Main): H04J-001/16

International Patent Class (Additional): H04J-003/14

File Segment: EPI

15/5/2 (Item 2 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014845031 \*\*Image available\*\*

WPI Acc No: 2002-665737/200271

XRPX Acc No: N02-526702

**Latency** passive calculation apparatus correlates incoming with outgoing data packet, and computes latency period between detecting incoming data packet and detecting outgoing data packet

Patent Assignee: NETWORKS ASSOC INC (NETW-N)

Inventor: KNOBBE R; PURTELL A; SCHWAB S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020093917	A1	20020718	US 2001764807	A	20010116	200271 B

Priority Applications (No Type Date): US 2001764807 A 20010116

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020093917	A1		23	H04J-001/16	

Abstract (Basic): US 20020093917 A1

NOVELTY - A tap (80) detects an incoming data **packet** arriving at a unit under test (UUT) (30) from a network (10). The tap (80A) detects an outgoing data **packet** departing from the UUT. A latency **measurement** device (LMD) (100) correlates the incoming data **packet** with the outgoing data **packet**, and **calculates** the **latency** period between detecting the incoming data **packet** and detecting the outgoing data **packet**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) a method for **passively measuring** a **latency** for a **network** device in a **network**;
- (b) and a computer program product for **passively measuring** the time required for a data **packet** to traverse a **network** device.

USE - For **measuring** performance of devices e.g. hubs, switches, routers, firewalls, servers on **network**.

ADVANTAGE - Allows implementation in computer system or other processing system using hardware, software or combination of both.

DESCRIPTION OF DRAWING(S) - The figure is a block diagram depicting an overview of a latency **measurement** device.

Network (10)

Unit under test (30)

Tap (80,80A)

Latency **measurement** device (100)

pp; 23 DwgNo 3/15

Title Terms: LATENT; **PASSIVE** ; **CALCULATE** ; APPARATUS; CORRELATE; INCOMING ; OUTGOING; DATA; **PACKET** ; COMPUTATION; LATENT; PERIOD; DETECT; INCOMING ; DATA; **PACKET** ; DETECT; OUTGOING; DATA; **PACKET**

Derwent Class: T01; W01

International Patent Class (Main): H04J-001/16

International Patent Class (Additional): H04J-003/14; H04L-012/26

File Segment: EPI

15/5/3 (Item 3 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014419854

WPI Acc No: 2002-240557/200229

Related WPI Acc No: 2002-034761; 2002-041765; 2002-240532

XRPX Acc No: N02-185712

Measuring jitter in specific data packet flow in network by analyzing data fields in packets to identify flow at two network points and adding transmit and receive time codes to enable variations in transit time to be measured

Patent Assignee: BRIX NETWORKS INC (BRIX-N); DESROCHERS S A (DESR-I);

HEDAYAT K (HEDA-I); PYRIK D S (PYRI-I)

Inventor: DESROCHERS S A; HEDAYAT K; PYRIK D S; PYRIK D

Number of Countries: 094 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200188763	A1	20011122	WO 2001US40753	A	20010518	200229 B
AU 200159868	A	20011126	AU 200159868	A	20010518	200229
US 20020039371	A1	20020404	US 2001264354	P	20010126	200230
			US 2001860287	A	20010518	

Priority Applications (No Type Date): US 2001264354 P 20010126; US 2000205280 P 20000518; US 2001860287 A 20010518

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200188763 A1 E 24 G06F-017/30

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200159868 A G06F-017/30 Based on patent WO 200188763

US 20020039371 A1 H04L-012/56 Provisional application US 2001264354

Abstract (Basic): WO 200188763 A1

NOVELTY - Transmission and receive time are associated with each packet in a flow received at a second point in a network.

Inter-arrival times are calculated for each successive pair of packets received at the second point by subtracting the transmit times of the two packets, subtracting the receive times of the two packets and subtracting the results. A jitter value is then calculated as a smoothed version of two or more inter-arrival times.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for

(a) a method of passively identifying individual packets in an IP packet flow

(b) a system for measuring jitter characteristics of a specific data packet flow

USE - Measuring jitter in data packet flows.

ADVANTAGE - Measures jitter without changing the traffic or the behavior of the network.

pp: 24 DwgNo 0/2

Title Terms: MEASURE; JITTER; SPECIFIC; DATA; PACKET; FLOW; NETWORK; DATA; FIELD; PACKET; IDENTIFY; FLOW; TWO; NETWORK; POINT; ADD; TRANSMIT; RECEIVE; TIME; CODE; ENABLE; VARIATION; TRANSIT; TIME; MEASURE

Derwent Class: T01; W01

International Patent Class (Main): G06F-017/30; H04L-012/56

International Patent Class (Additional): H04J-003/06; H04J-003/14

File Segment: EPI

15/5/9 (Item 9 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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008246661 \*\*Image available\*\*

WPI Acc No: 1990-133662/199018

XRPX Acc No: N90-103621

Non - intrusive **channel impairment analyser** - measures signal jitter in **band-limited data communications channel** using **adaptive line enhancer**

Patent Assignee: HEWLETT-PACKARD LTD (HEWP )

Inventor: CARDER N G; RHIND W G

Number of Countries: 004 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 366160	A	19900502	EP 89122987	A	19870106	199018 B

Priority Applications (No Type Date): GB 865576 A 19860306

Cited Patents: US 4381546; US 4555790

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 366160	A			

Designated States (Regional): DE FR GB IT

Abstract (Basic): EP 366160 A

The adaptive line enhancer is arranged to isolate **deterministic** components of the error signal, representing phase-error or amplitude error between input and output of the data recovery circuit, from background noise. The enhancer provides a fixed delay (50) arranged to receive the error signal and to supply a delayed error signal to the transversal filter (51).

A comparator (52) **determines** the difference between the signal input to the enhancer and that output by the transversal filter. A top coefficient updating circuit (53) adjusts the top coefficients of the transversal filter so as to minimise the difference **determined** by the comparator.

USE/ADVANTAGE - E.g. for telephone line QAM **data transmission**. Signal **jitter** is **measured** without interruption of channel traffic.  
(22pp Dwg.No.7/12)

Title Terms: NON; INTRUDE; CHANNEL; IMPAIR; ANALYSE; **MEASURE** ; SIGNAL; JITTER; BAND; LIMIT; DATA; COMMUNICATE; CHANNEL; ADAPT; LINE; ENHANCE

Index Terms/Additional Words: QAM

Derwent Class: W01

International Patent Class (Additional): H04L-001/20; H04L-027/06

File Segment: EPI

15/5/10 (Item 10 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

007294751  
WPI Acc No: 1987-291758/198741  
XRPX Acc No: N87-218572

**Dejitteriser for digital data transmission - has signal clocked into buffer by jitter clock pulse signal and clocked out by local clock pulse signal**

Patent Assignee: SOTAS INC (SOTA-N)

Inventor: JOHNSON T H; MANNAS E L

Number of Countries: 018 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 8706085	A	19871008	WO 87US609	A	19870324	198741 B
AU 8772066	A	19871020				198803
US 4718074	A	19880105	US 86843668	A	19860325	198803

Priority Applications (No Type Date): US 86843668 A 19860325

Cited Patents: US 3420956; US 4054747; US 4270183; US 4434498; US 4596026

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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WO 8706085	A	E	17	
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Designated States (National): AU BR DK FI JP KR NO

Designated States (Regional): AT BE CH DE FR GB IT LU NL SE

US 4718074	A	5	
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Abstract (Basic): WO 8706085 A

The dejitteriser **separates** a stream of given data bits and a given clock pulse signal associated with it from a given signal. A local clock pulse signal is produced. A buffer (4) stores the given data bits in response to the pulses of a clock signal and outputs the data bits in response to the pulses of the local clock pulse signal. A counter (32) detects the pulses of the given and local clock pulse signals. It **determines** the number of data bits stored in the buffer as a function of the difference between the number of given clock pulses and local clock pulses supplied to the buffer.

It controls the time at which the given and local clock pulses are detected by the counter. This prevents simultaneously detecting a local clock pulse and a given clock pulse, provides an accurate **determination** of the number of given data bits in the buffer. The frequency of the local clock pulse signal is varied as a function of the phase relation between the local signal and the given signal so that buffer overflow is prevented.

USE/ADVANTAGE - For digital **transmission** of voice and data in e.g. T4 fibre optic system. Simple, reliable correction for **jitter**.

1/1

Title Terms: DIGITAL; DATA; **TRANSMISSION**; SIGNAL; CLOCK; BUFFER; **JITTER**; CLOCK; PULSE; SIGNAL; CLOCK; LOCAL; CLOCK; PULSE; SIGNAL

Derwent Class: W01

International Patent Class (Additional): H03D-003/24; H04L-007/00; H04L-025/36

File Segment: EPI

Set	Items	Description
S1	137982	JITTER? OR LATENC? OR DISTORT? OR TEMPORAL() (SHIFT? OR VARIATION?)
S2	1465833	NETWORK? OR TRANMISS? OR WAN OR INTERNET? OR INTRANET? OR HTTP? OR TCP? OR PACKET?
S3	210526	TIMESTAMP? OR TIME()STAMP? OR DATESTAMP? OR DATE()STAMP? OR TIMING?
S4	2087313	MEASUR? OR DURATION? OR INTERVAL? OR PERIOD?
S5	31624	PASSIVE? OR NONINTRUSIV? OR ("NOT" OR NON) () (EMBED? OR INTEGRAL? OR INTERNAL OR INTRUSIV?)
S6	2423110	SEPARAT? OR EXTERNAL? OR OUTSIDE? OR UNATTACH?
S7	9	S1(4N)S2 AND S4 AND S5
S8	3	S1(4N)S2 AND S3(2N)S6
S9	12	S7 OR S8
S10	7	S9 AND IC=(G06F? OR H04L?)
S11	7	IDPAT (sorted in duplicate/non-duplicate order)
S12	7	IDPAT (primary/non-duplicate records only)
S13	32	S1 AND S2 AND (S3(2N)S6 OR S5) AND (S4 OR CALCULAT? OR ESTIMAT? OR PREDICT?)
S14	22	S13 NOT S9
S15	11	S14 AND IC=(G06F? OR H04L?)
S16	11	IDPAT (sorted in duplicate/non-duplicate order)
S17	11	IDPAT (primary/non-duplicate records only)

File 347:JAPIO Oct 1976-2003/Oct (Updated 040202)

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200410

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17/5/4 (Item 4 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
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012411569 \*\*Image available\*\*

WPI Acc No: 1999-217677/199919

XRPX Acc No: N99-160534

**Local clock stabilization for data receiver in data transmission system**  
Patent Assignee: MITEL CORP (MTLC )

Inventor: JIN G Q; REESOR G J

Number of Countries: 006 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2330736	A	19990428	GB 9722380	A	19971024	199919	B
DE 19848610	A1	19990429	DE 1048610	A	19981021	199923	
FR 2770355	A1	19990430	FR 9813231	A	19981019	199924	
CA 2249826	A1	19990424	CA 2249826	A	19981008	199940	
SE 9803639	A	19990425	SE 983639	A	19981023	199950	
US 6138244	A	20001024	US 98163248	A	19980930	200055	
GB 2330736	B	20020410	GB 9722380	A	19971024	200232	

Priority Applications (No Type Date): GB 9722380 A 19971024

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2330736	A	16		H04L-007/04	
DE 19848610	A1			H04L-007/04	
FR 2770355	A1			H04L-007/00	
CA 2249826	A1	E		H04L-007/08	
SE 9803639	A			H04L-007/027	
US 6138244	A			G06F-001/12	
GB 2330736	B			H04L-007/04	

Abstract (Basic): GB 2330736 A

NOVELTY - The method involves adaptively **estimating** a precursor timing location of a reference timing signal from a transmitter, at current time less one baud **interval**, using a one tap least mean square (LMS) algorithm. A dead zone, covering the timing locations controlled by the precursor **estimate**, is determined. The local clock is adjusted only when the **timing** location falls **outside** the dead zone.

USE - For data **transmission** system with a transmitter which transmits a reference timing signal with a data signal, and a data receiver with a local clock.

ADVANTAGE - The method results in reduced **jitter**, since only noise sufficient to move the subsequent timing location out of the dead zone causes a wrong timing movement.

DESCRIPTION OF DRAWING(S) - The figure shows a flow chart indicating a timing recovery process.

pp; 16 DwgNo 3/3

Title Terms: LOCAL; CLOCK; STABILISED; DATA; RECEIVE; DATA; **TRANSMISSION** ;  
SYSTEM

Derwent Class: W01

International Patent Class (Main): G06F-001/12 ; H04L-007/00 ;  
H04L-007/027 ; H04L-007/04 ; H04L-007/08

International Patent Class (Additional): G06F-001/04 ; H04L-001/00

File Segment: EPI

17/5/5 (Item 5 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
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010036317 \*\*Image available\*\*

WPI Acc No: 1994-304028/199438

XRPX Acc No: N94-239063

Calibration system for TDMA system with passive optical network -  
uses initial calibration time slot of extended duration and data flow  
reduction to prevent cell jitter

Patent Assignee: SIEMENS AG (SIEI )

Inventor: GLADE M; HARTL B; HORBACH C; KELLER H.

Number of Countries: 009 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4405461	C1	19941006	DE 4405461	A	19940221	199438	B
EP 668676	A1	19950823	EP 95102015	A	19950214	199538	
EP 668676	B1	19960724	EP 95102015	A	19950214	199634	
DE 59500005	G	19960829	DE 500005	A	19950214	199640	
			EP 95102015	A	19950214		
ES 2091145	T3	19961016	EP 95102015	A	19950214	199647	

Priority Applications (No Type Date): DE 4405461 A 19940221

Cited Patents: 1.Jnl.Ref; EP 318333; WO 9222151; WO 9319540

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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DE 4405461	C1	5		H04J-003/14	
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EP 668676	A1	G	5	H04J-014/08	
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Designated States (Regional): AT BE CH DE ES FR GB IT LI

EP 668676	B1	G	6	H04J-014/08	
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Designated States (Regional): AT BE CH DE ES FR GB IT LI

DE 59500005	G			H04J-014/08	Based on patent EP 668676
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ES 2091145	T3			H04J-014/08	Based on patent EP 668676
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Abstract (Basic): DE 4405461 C

The calibration system uses an initial calibration time slot with a duration which is longer than that of the calibration time slots used during operation of the system. Before the initial calibration the data flow from the central unit (OLT) to the exchange is reduced with temporary storage of the untransmitted data, for transmission during the initial calibration. The data received at the peripheral for transmission to the central unit is stored during the initial calibration and transmitted at a slightly increased data rate after the latter.

Pref. the initial calibration time slot has at least double the duration of the successive calibration time slots.

ADVANTAGE - Prevents cell jitter due to calibration gaps.

Dwg.1/1

Title Terms: CALIBRATE; SYSTEM; TDMA; SYSTEM; PASSIVE ; OPTICAL; NETWORK ; INITIAL; CALIBRATE; TIME; SLOT; EXTEND; DURATION ; DATA; FLOW; REDUCE; PREVENT; CELL; JITTER

Derwent Class: W01

International Patent Class (Main): H04J-003/14; H04J-014/08

International Patent Class (Additional): H04L-001/14

File Segment: EPI

12/5/2 (Item 2 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014419854

WPI Acc No: 2002-240557/200229

Related WPI Acc No: 2002-034761; 2002-041765; 2002-240532

XRPX Acc No: N02-185712

Measuring jitter in specific data packet flow in network by analyzing data fields in packets to identify flow at two network points and adding transmit and receive time codes to enable variations in transit time to be measured

Patent Assignee: BRIX NETWORKS INC (BRIX-N); DESROCHERS S A (DESR-I); HEDAYAT K (HEDA-I); PYRIK D S (PYRI-I)

Inventor: DESROCHERS S A; HEDAYAT K; PYRIK D S; PYRIK D

Number of Countries: 094 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200188763	A1	20011122	WO 2001US40753	A	20010518	200229 B
AU 200159868	A	20011126	AU 200159868	A	20010518	200229
US 20020039371	A1	20020404	US 2001264354	P	20010126	200230
			US 2001860287	A	20010518	

Priority Applications (No Type Date): US 2001264354 P 20010126; US 2000205280 P 20000518; US 2001860287 A 20010518

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200188763 A1 E 24 G06F-017/30

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200159868 A G06F-017/30 Based on patent WO 200188763

US 20020039371 A1 H04L-012/56 Provisional application US 2001264354

Abstract (Basic): WO 200188763 A1

NOVELTY - Transmission and receive time are associated with each packet in a flow received at a second point in a network. Inter-arrival times are calculated for each successive pair of packets received at the second point by subtracting the transmit times of the two packets, subtracting the receive times of the two packets and subtracting the results. A jitter value is then calculated as a smoothed version of two or more inter-arrival times.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for

(a) a method of passively identifying individual packets in an IP packet flow

(b) a system for measuring jitter characteristics of a specific data packet flow

USE - Measuring jitter in data packet flows.

ADVANTAGE - Measures jitter without changing the traffic or the behavior of the network.

pp; 24 DwgNo 0/2

Title Terms: MEASURE ; JITTER; SPECIFIC; DATA; PACKET; FLOW; NETWORK; DATA ; FIELD; PACKET; IDENTIFY; FLOW; TWO; NETWORK; POINT; ADD; TRANSMIT; RECEIVE; TIME; CODE; ENABLE; VARIATION; TRANSIT; TIME; MEASURE

Derwent Class: T01; W01

International Patent Class (Main): G06F-017/30 ; H04L-012/56

International Patent Class (Additional): H04J-003/06; H04J-003/14

File Segment: EPI

12/5/3 (Item 3 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

013067293 \*\*Image available\*\*  
WPI Acc No: 2000-239165/200021  
XRPX Acc No: N00-179575

Distributed system with enhancements to its time synchronization; uses circuitry that obtains local time value from local clock when unique timing point is detected

Patent Assignee: HEWLETT-PACKARD CO (HEWP ); AGILENT TECHNOLOGIES INC (AGIL-N)

Inventor: EIDSON J C

Number of Countries: 027 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 986202	A2	20000315	EP 99111339	A	19990610	200021 B
JP 2000099485	A	20000407	JP 99239133	A	19990826	200028
US 6278710	B1	20010821	US 98151017	A	19980910	200150

Priority Applications (No Type Date): US 98151017 A 19980910

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 986202	A2	E	14	H04J-003/06	
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Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI

JP 2000099485	A	10	G06F-015/177
US 6278710	B1		H04L-012/56

Abstract (Basic): EP 986202 A2

NOVELTY - A second node (14) includes a local clock (36) and circuitry that obtains a local time value from the local clock (36) when the unique timing point (52) is detected. The local time value is discarded if a delimiter (54) is not detected, such that a difference between a time-stamp (50) of the follow up packet and the local time value if not discarded indicates a relative synchronization of the local clocks (22,36).

USE - In enhancements to time synchronization in distributed systems.

ADVANTAGE - Improves the accuracy in time synchronization by separating the unique timing point from a delimiter for the timing data packet, compensating for jitter associated with communication circuitry in the distributed system including jitter associated with physical interfaces and gateways in the distributed system.

DESCRIPTION OF DRAWING(S) - The drawing shows a distributed system which includes a pair of nodes interconnected via a communication link.

- first node (12)
- second node (14)
- local clock (22)
- local clock (36)
- time-stamp (50)
- unique timing point (52)
- delimiter (54)
- pp; 14 DwgNo 1/7

Title Terms: DISTRIBUTE; SYSTEM; TIME; CIRCUIT; OBTAIN; LOCAL; TIME; VALUE; LOCAL; CLOCK; UNIQUE; TIME; POINT; DETECT

Derwent Class: T01; W01

International Patent Class (Main): G06F-015/177 ; H04J-003/06;  
H04L-012/56

International Patent Class (Additional): G06F-001/14 ; G06F-015/163

File Segment: EPI

12/5/6 (Item 6 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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008246661 \*\*Image available\*\*

WPI Acc No: 1990-133662/199018

XRPX Acc No: N90-103621

Non - intrusive **channel impairment analyser** - measures **signal jitter** in **band-limited data communications channel** using **adaptive line enhancer**

Patent Assignee: HEWLETT-PACKARD LTD (HEWP )

Inventor: CARDER N G; RHIND W G

Number of Countries: 004 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 366160	A	19900502	EP 89122987	A	19870106	199018 B

Priority Applications (No Type Date): GB 865576 A 19860306

Cited Patents: US 4381546; US 4555790

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
-----------	------	--------	----------	--------------

EP 366160	A			
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Designated States (Regional): DE FR GB IT

Abstract (Basic): EP 366160 A

The adaptive line enhancer is arranged to isolate deterministic components of the error signal, representing phase-error or amplitude error between input and output of the data recovery circuit, from background noise. The enhancer provides a fixed delay (50) arranged to receive the error signal and to supply a delayed error signal to the transversal filter (51).

A comparator (52) determines the difference between the signal input to the enhancer and that output by the transversal filter. A top coefficient updating circuit (53) adjusts the top coefficients of the transversal filter so as to minimise the difference determined by the comparator.

USE/ADVANTAGE - E.g. for telephone line QAM data **transmission**. Signal **jitter** is **measured** without interruption of channel traffic.  
(22pp Dwg.No.7/12)

Title Terms: NON; INTRUDE; CHANNEL; IMPAIR; ANALYSE; **MEASURE** ; SIGNAL; JITTER; BAND; LIMIT; DATA; COMMUNICATE; CHANNEL; ADAPT; LINE; ENHANCE

Index Terms/Additional Words: QAM

Derwent Class: W01

International Patent Class (Additional): H04L-001/20 ; H04L-027/06

File Segment: EPI

Set	Items	Description
S1	595	JITTER? OR LATENC? OR DISTORT? OR TEMPORAL() (SHIFT? OR VARIATION?)
S2	56732	NETWORK? OR TRANMISS? OR WAN OR INTERNET? OR INTRANET? OR HTTP? OR TCP? OR PACKET?
S3	593	TIMESTAMP? OR TIME()STAMP? OR DATESTAMP? OR DATE()STAMP? OR TIMING?
S4	4650	MEASUR? OR DURATION? OR INTERVAL? OR PERIOD?
S5	237	PASSIVE? OR NONINTRUSIV? OR ("NOT" OR NON) () (EMBED? OR INTEGRAL? OR INTERNAL OR INTRUSIV?)
S6	8346	SEPARAT? OR EXTERNAL? OR OUTSIDE? OR UNATTACH?
S7	2	S1 AND S2 AND S4 AND S5
S8	1	S1 AND S2 AND S3 AND S6
S9	2	S7 OR S8

File 256:SoftBase:Reviews,Companies&Prods. 82-2004/Jan  
(c)2004 Info.Sources Inc

Set	Items	Description
S1	420222	JITTER? OR LATENC? OR DISTORT? OR TEMPORAL() (SHIFT? OR VARIATION?)
S2	15199289	NETWORK? OR TRANSMISS? OR WAN OR INTERNET? OR INTRANET? OR HTTP? OR TCP? OR PACKET?
S3	779434	TIMESTAMP? OR TIME()STAMP? OR DATESTAMP? OR DATE()STAMP? OR TIMING?
S4	9371092	MEASUR? OR DURATION? OR INTERVAL? OR PERIOD?
S5	297351	PASSIVE? OR NONINTRUSIV? OR ("NOT" OR NON) () (EMBED? OR INTEGRAL? OR INTERNAL OR INTRUSIV?)
S6	6126299	SEPARAT? OR EXTERNAL? OR OUTSIDE? OR UNATTACH?
S7	227	S1(4N)S2 (15N) S4 AND S5
S8	13	S1(4N)S2 (15N) S3(2N)S6
S9	240	S7 OR S8
S10	0	S9 AND IC=(G06F? OR H04L?)
S11	77	S1 (15N) S2 (15N) (S3(2N)S6 OR S5) (15N) (S4 OR CALCULAT? - OR ESTIMAT? OR PREDICT?)
S12	52	S1(4N)S2(15N)S4(15N)S5
S13	93	S8 OR S11 OR S12
S14	43	RD (unique items)
S15	21	S14 NOT PY>2000
S16	20	S15 NOT PD=20000926:20020926
S17	20	S16 NOT PD=20020926:20040301
File	275:Gale Group Computer DB(TM)	1983-2004/Feb 13 (c) 2004 The Gale Group
File	47:Gale Group Magazine DB(TM)	1959-2004/Feb 12 (c) 2004 The Gale group
File	75:TGG Management Contents(R)	86-2004/Feb W1 (c) 2004 The Gale Group
File	636:Gale Group Newsletter DB(TM)	1987-2004/Feb 13 (c) 2004 The Gale Group
File	16:Gale Group PROMT(R)	1990-2004/Feb 13 (c) 2004 The Gale Group
File	624:McGraw-Hill Publications	1985-2004/Feb 12 (c) 2004 McGraw-Hill Co. Inc
File	484:Periodical Abs Plustext	1986-2004/Feb W3 (c) 2004 ProQuest
File	613:PR Newswire	1999-2004/Feb 13 (c) 2004 PR Newswire Association Inc
File	813:PR Newswire	1987-1999/Apr 30 (c) 1999 PR Newswire Association Inc
File	141:Readers Guide	1983-2004/Jan (c) 2004 The HW Wilson Co
File	239:Mathsci	1940-2004/Mar (c) 2004 American Mathematical Society
File	370:Science	1996-1999/Jul W3 (c) 1999 AAAS
File	696:DIALOG Telecom. Newsletters	1995-2004/Feb 12 (c) 2004 The Dialog Corp.
File	553:Wilson Bus. Abs. FullText	1982-2004/Jan (c) 2004 The HW Wilson Co
File	621:Gale Group New Prod.Annou.(R)	1985-2004/Feb 13 (c) 2004 The Gale Group
File	674:Computer News Fulltext	1989-2004/Feb W2 (c) 2004 IDG Communications
File	88:Gale Group Business A.R.T.S.	1976-2004/Feb 13 (c) 2004 The Gale Group
File	369:New Scientist	1994-2004/Feb W2 (c) 2004 Reed Business Information Ltd.
File	160:Gale Group PROMT(R)	1972-1989 (c) 1999 The Gale Group
File	635:Business Dateline(R)	1985-2004/Feb 13 (c) 2004 ProQuest Info&Learning
File	15:ABI/Inform(R)	1971-2004/Feb 13 (c) 2004 ProQuest Info&Learning
File	9:Business & Industry(R)	Jul/1994-2004/Feb 12 (c) 2004 Resp. DB Svcs.
File	13:BAMP	2004/Jan W4

(c) 2004 Resp. DB Svcs.  
File 810:Business Wire 1986-1999/Feb 28  
(c) 1999 Business Wire  
File 610:Business Wire 1999-2004/Feb 13  
(c) 2004 Business Wire.  
File 647:CM Computer Fulltext 1988-2004/Feb W1  
(c) 2004 CMP Media, LLC  
File 98:General Sci Abs/Full-Text 1984-2004/Jan  
(c) 2004 The HW Wilson Co.  
File 148:Gale Group Trade & Industry DB 1976-2004/Feb 13  
(c) 2004 The Gale Group  
File 634:San Jose Mercury Jun 1985-2004/Feb 12  
(c) 2004 San Jose Mercury News

17/3,K/3 (Item 3 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2004 The Gale Group. All rts. reserv.

01200776 SUPPLIER NUMBER: 04773855

How to overcome jitter on a token-ring LAN.

Bridge, Robert F.

Data Communications, v16, n4, p137(4)

April, 1987

ISSN: 0363-6399 LANGUAGE: ENGLISH RECORD TYPE: ABSTRACT

...ABSTRACT: around the token ring is the main limiting factor on the size of token rings. **Jitter** is a short-term inaccuracy in **timing** in a data stream. There are three ways, in theory, to deal with **jitter** : break up long patterns of ones and zeros; **separate** the **network** into multiple rings, and connect each ring with bridges; or incorporate jitter attenuation integrated circuits...

17/3, K/12 (Item 1 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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02009010 52200497

**SLA enforcement tools to the rescue**

Nance, Barry  
Network World v17n14 PP: 69-73 Apr 3, 2000  
ISSN: 0887-7661 JRNL CODE: NWW  
WORD COUNT: 3906

...TEXT: that let us see and account for even the shortest bursts of activity, it accurately **measured** WAN usage to show our peaks and valleys of data transmission as a percentage of...used this information to display a recommendation for the bandwidth we should have for each **WAN** link.

**Measuring** and analyzing **WAN** delay is one of Visual UpTime's strong suits. On a per-. circuit basis, the **WAN** Delay tool determined end-to-end delay times in a **nonintrusive** manner. From one **WAN** link telephone company **network** interface to the other, the tool separated the customer premises equipment **latency** from the **WAN latency** to reveal the exact **WAN** delay we experienced in our **WAN** links.

Finding the OpenLane

Paradyne's OpenLane is an excellent Java-based SLA monitoring tool...

Set	Items	Description
S1	505759	JITTER? OR LATENC? OR DISTORT? OR TEMPORAL() (SHIFT? OR VARIATION?)
S2	3707919	NETWORK? OR TRANMISS? OR WAN OR INTERNET? OR INTRANET? OR HTTP? OR TCP? OR PACKET?
S3	183594	TIMESTAMP? OR TIME() STAMP? OR DATESTAMP? OR DATE() STAMP? OR TIMING?
S4	9562408	MEASUR? OR DURATION? OR INTERVAL? OR PERIOD?
S5	274071	PASSIVE? OR NONINTRUSIV? OR ("NOT" OR NON) () (EMBED? OR INTEGRAL? OR INTERNAL OR INTRUSIV?)
S6	2716799	SEPARAT? OR EXTERNAL? OR OUTSIDE? OR UNATTACH?
S7	66	S1 (4N) S2 AND S4 AND S5
S8	4	S1(4N)S2 AND S3(2N)S6
S9	500	S1 AND S2 AND (S3(2N)S6 OR S5) AND (S4 OR CALCULAT? OR ESTIMAT? OR PREDICT?)
S10	55	S9 AND (PACKET? OR DATAGRAM? OR DATA() (STREAM? OR GRAM?) OR DATASTREAM?)
S11	100	S7 OR S8 OR S10
S12	64	RD (unique items)
S13	34	S12 NOT PY>2000
S14	34	S13 NOT PD=20000926:20020926
S15	34	S14 NOT PD=20020926:20040301
File	8:Ei Compendex(R) 1970-2004/Feb W1	
		(c) 2004 Elsevier Eng. Info. Inc.
File	35:Dissertation Abs Online 1861-2004/Jan	
		(c) 2004 ProQuest Info&Learning
File	65:Inside Conferences 1993-2004/Feb W2	
		(c) 2004 BLDSC all rts. reserv.
File	2:INSPEC 1969-2004/Feb W1	
		(c) 2004 Institution of Electrical Engineers
File	94:JICST-EPlus 1985-2004/Feb W1	
		(c)2004 Japan Science and Tech Corp(JST)
File	111:TGG Natl.Newspaper Index(SM) 1979-2004/Feb 11	
		(c) 2004 The Gale Group
File	233:Internet & Personal Comp. Abs. 1981-2003/Sep	
		(c) 2003 EBSCO Pub.
File	144:Pascal 1973-2004/Feb W1	
		(c) 2004 INIST/CNRS
File	434:SciSearch(R) Cited Ref Sci 1974-1989/Dec	
		(c) 1998 Inst for Sci Info
File	34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W2	
		(c) 2004 Inst for Sci Info
File	62:SPIN(R) 1975-2004/Dec W3	
		(c) 2004 American Institute of Physics
File	99:Wilson Appl. Sci & Tech Abs 1983-2004/Jan	
		(c) 2004 The HW Wilson Co.
File	95:TEME-Technology & Management 1989-2004/Jan W4	
		(c) 2004 FIZ TECHNIK

05382736 E.I. No: EIP99104832102

Title: DTM: new dynamic transfer mode using dynamically assigned short-hold time-slot relay

Author: Yamanaka, Naoaki; Shiromoto, Kohei

Corporate Source: NTT Network Service Systems Lab, Tokyo, Jpn

Conference Title: Proceedings of the IEEE GLOBECOM 1998 - The Bridge to the Global Integration

Conference Location: Sydney, NSW, Aust Conference Date: 19981108-19981112

Sponsor: IEEE Communications Society; Telstra; ERICSSON; SIEMENS; et al.

E.I. Conference No.: 55358

Source: Conference Record / IEEE Global Telecommunications Conference v 1 1998. p 375-380

Publication Year: 1998

CODEN: CRIEET

Language: English

Document Type: JA; (Journal Article) Treatment: G; (General Review)

Journal Announcement: 9911W3

Abstract: This paper proposes a new high-speed **network** architecture called Dynamic Transfer Mode, DTM. At the entrance of the DTM **network**, destination addresses such as IP addresses are converted into DTM routing information and attached to the **packet** header. In a DTM **network**, a connection is set up on-the-fly by sending a series of routing link identifiers to the destination, so burst data transfers like WWW traffic are efficiently carried. A connection between adjacent nodes is created and released dynamically within the burst transfer **period**. This yields higher statistical multiplexing gain and improved bandwidth efficiency compared to with conventional STM. Time division multiplexing is utilized so there is no delay **jitter** or cell loss, which are major drawbacks of Asynchronous Transfer Mode. This paper analyzes the performance of a DTM **network** and describes an implemented switching system. Because a DTM **network** uses source-routing and **passive** STM switching, it simplifies the core transit switch while localizing intelligence to edge nodes. A simplified core transit switch is well suited for future high-speed backbone **networks**.

(Author abstract) 9 Refs.

Descriptors: Broadband **networks**; Data transfer; Switching systems; Time division multiplexing; World Wide Web; Telecommunication traffic

Identifiers: Dynamic transfer mode; Dynamically assigned short hold time slot relay; High speed **network** architecture; Routing information; **Packet** header; Routing link identifiers; Burst transfer **period**; Delay **jitter**; Source routing

Classification Codes:

723.2 (Data Processing)

718 (Telephone & Line Communications); 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING)

04363100 E.I. No: EIP96033107148

Title: Jitter analysis for two methods of synchronization for external timing injection

Author: Walker, Jacqueline; Cantoni, Antonio

Corporate Source: Curtin Univ of Technology, Bentley, Aust

Source: IEEE Transactions on Communications v 44 n 2 Feb 1996. p 269-276

Publication Year: 1996

CODEN: IECMBT ISSN: 0090-6778

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9605W3

Abstract: The jitter generated by two different approaches to synchronization of an **external timing** source is analyzed. The two approaches are: the use of conventional stuffing and the use of a simpler frame sampling synchronizer. It is shown that these two approaches have the same jitter power density spectrum. The result is obtained using a new time domain method developed in the paper. Exact expressions for the jitter on the synchronized **external timing** source are obtained. Furthermore, the effect of quantization in the conventional stuffing synchronizer on the jitter expressions obtained is also explored. Jitter generated by the frame sampling synchronizer is also analyzed using the time domain method, which again produces an exact expression. In the case where certain parameters of the two approaches are related, the location of spectral lines in their respective jitter spectra is shown to be identical. It is also shown that both approaches to synchronization introduce the so-called waiting-time jitter. (Author abstract) 8 Refs.

Descriptors: \*Synchronization; Timing circuits; Time domain analysis; Clocks; Buffer storage; Phase locked loops; Mathematical models; Data transfer

Identifiers: Jitter analysis; **External timing** injection; Frame sampling synchronizer; Waiting time **jitter** ; Data **networks** ; Data entering; Quantization

Classification Codes:

731.1 (Control Systems); 713.4 (Pulse Circuits); 921.6 (Numerical Methods); 943.3 (Special Purpose Instruments); 722.1 (Data Storage, Equipment & Techniques); 713.5 (Other Electronic Circuits)

731 (Automatic Control Principles); 713 (Electronic Circuits); 921 (Applied Mathematics); 943 (Mechanical & Miscellaneous Measuring Instruments); 722 (Computer Hardware)

73 (CONTROL ENGINEERING); 71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS); 94 (INSTRUMENTS & MEASUREMENT); 72 (COMPUTERS & DATA PROCESSING)

15/5/10 (Item 10 from file: 8)  
DIALOG(R)File 8:EI Compendex(R)  
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01523793 E.I. Monthly No: EI8406052980 E.I. Yearly No: EI84034004  
**Title: PERFORMANCE EVALUATION IN AN ISDN - DIGITAL TRANSMISSION IMPAIRMENTS.**

Author: Huckett, P.

Corporate Source: Hewlett Packard Ltd, West Lothian, Scotl

Source: Radio and Electronic Engineer v 54 n 2 Feb 1984 p 97-106

Publication Year: 1984

CODEN: RDEEA4 ISSN: 0033-7722

Language: ENGLISH

Journal Announcement: 8406

Abstract: The performance evaluation of the future Integrated Services Digital Network is considered. Emphasis is given to both the **measurement** and the instrumentation necessary to quantify the most important digital **transmission** impairments, **jitter** and errors. The trend towards **non - intrusive measurement** and automated testing made possible by advances in digital technology is reviewed. 13 refs.

Descriptors: DIGITAL COMMUNICATION SYSTEMS--\*Performance; ELECTRIC NETWORKS, COMMUNICATION-- **Measurements** ; AUTOMATIC TESTING

Identifiers: DIGITAL TRANSMISSION SYSTEM; INTEGRATED SERVICES DIGITAL NETWORK; **NON - INTRUSIVE MEASUREMENT**

Classification Codes:

716 (Radar, Radio & TV Electronic Equipment); 718 (Telephone & Line Communications); 942 (Electrical & Electronic Measuring Instruments); 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 94 (INSTRUMENTS & MEASUREMENT); 72 (COMPUTERS & DATA PROCESSING)

15/5/16 (Item 3 from file: 2)  
DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

01167114 INSPEC Abstract Number: B78014079

**Title:** Passive network to measure distortion

Author(s): Cole, J.B.

Journal: Wireless World vol.84, no.1505 p.60

Publication Date: Jan. 1978 Country of Publication: UK

CODEN: WIWOAA ISSN: 0043-6062

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

**Abstract:** Describes a circuit for distortion **measurements** of low impedance sources at 1 kHz using an audio millivoltmeter. A high pass LC filter removes low frequency noise in the input signal and compensates for the loss of harmonic frequencies. It also contributes about 10 dB to the rejection at 1 kHz so that the null adjustments are less critical. If used for setting the bias and recording levels of a tape recorder, it is much less affected by transport speed variations than a conventional instrument. Dynamic range is large because only a small fraction of the input signal appears across the inductor. The prototype used 2% metal oxide resistors and 5% polycarbonate capacitors. After three years use without adjustment the circuit has remained level to within +or-3% over the first twelve harmonics and still **measures** t.h.d. to below 0.05%. (0 Refs)

Subfile: B

Descriptors: audio equipment; electric distortion **measurement**

Identifiers: low impedance sources; audio millivoltmeter; first twelve harmonics; **measures** t.h.d. to below 0.05%; distortion **measurement**; **passive** networks; audio equipment test circuit; 1 kHz signal **measurement**; tape recorder adjustment

Class Codes: B1290 (Special purpose electronic circuits); B6450 (Audio equipment and systems); B7310Z (Other electric variables)

Set Items Description  
S1 97406 JITTER? OR LATENC? OR DISTORT? OR TEMPORAL() (SHIFT? OR VARIATION?)  
S2 463562 NETWORK? OR TRANSMISS? OR WAN OR INTERNET? OR INTRANET? OR HTTP? OR TCP? OR PACKET?  
S3 132050 TIMESTAMP? OR TIME() STAMP? OR DATESTAMP? OR DATE() STAMP? OR TIMING?  
S4 922232 MEASUR? OR DURATION? OR INTERVAL? OR PERIOD?  
S5 64772 PASSIVE? OR NONINTRUSIV? OR ("NOT" OR NON) () (EMBED? OR INTEGRAL? OR INTERNAL OR INTRUSIV?)  
S6 1278803 SEPARAT? OR EXTERNAL? OR OUTSIDE? OR UNATTACH?  
S7 172 S1(4N)S2 (15N) S4 AND S5  
S8 27 S1(4N)S2 (15N) S3(2N)S6  
S9 199 S7 OR S8  
S10 131 S9 AND IC=(G06F? OR H04L?)  
S11 37 S1 (15N) S2 (15N) (S3(2N)S6 OR S5) (15N) (S4 OR CALCULAT? -  
OR ESTIMAT? OR PREDICT?)  
S12 20 S1(4N)S2(15N)S4(15N)S5  
S13 38 (S8 OR S12 OR S11) AND IC=(G06F? OR H04L?)  
S14 38 IDPAT (sorted in duplicate/non-duplicate order)  
S15 38 IDPAT (primary/non-duplicate records only)  
File 348:EUROPEAN PATENTS 1978-2004/Feb W01  
(c) 2004 European Patent Office  
File 349:PCT FULLTEXT 1979-2002/UB=20040212,UT=20040205  
(c) 2004 WIPO/Univentio

01127584

Enhancements to time synchronization in distributed systems  
Verbesserungen der Zeitsynchronisierung in verteilten Systemen  
Ameliorations portées à la synchronisation temporelle dans des systèmes  
distribués

PATENT ASSIGNEE:

Hewlett-Packard Company, (206030), 3000 Hanover Street, Palo Alto,  
California 94304, (US), (Applicant designated States: all)

INVENTOR:

Eidson, John C., 3294 Ross Road, Palo Alto, Ca 94303, (US)

LEGAL REPRESENTATIVE:

Schoppe, Fritz, Dipl.-Ing. (55463), Schoppe, Zimmermann & Stockeler  
Patentanwalte Postfach 71 08 67, 81458 München, (DE)

PATENT (CC, No, Kind, Date): EP 986202 A2 000315 (Basic)

APPLICATION (CC, No, Date): EP 99111339 990610;

PRIORITY (CC, No, Date): US 151017 980910

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: H04J-003/06; G06F-001/14

ABSTRACT EP 986202 A2

A variety of enhancements to a time synchronization protocol for a distributed system(10) or (100) including techniques for improving accuracy by **separating** a unique **timing** point (52) from a delimiter 54 for the **timing** data **packet** (18). The enhancements include techniques that compensate for **jitter** associated with communication circuitry in the distributed system (10) or (100) including **jitter** associated with physical interfaces and gateways in the distributed system. These techniques may involve specialized circuitry in the communication circuitry to compensate for jitter or special processing of received timing data packets or the introduction of follow up packets (16) that inform receiving nodes of **measured** jitter or a combination of these techniques.

ABSTRACT WORD COUNT: 112

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Assignee: 010418 A2 Transfer of rights to new applicant: Agilent Technologies, Inc. (2885687) 395 Page Mill Road Palo Alto, CA 94303 US

Application: 20000315 A2 Published application without search report

Assignee: 011010 A2 Transfer of rights to new applicant: Agilent Technologies, Inc. (a Delaware corporation) (2885689) 395 Page Mill Road Palo Alto, CA 94303 US

Assignee: 010801 A2 Transfer of rights to new applicant: Agilent Technologies Inc. (2929951) a Delaware Corporation 395 Page Mill Road Palo Alto, CA 94303 US

Assignee: 010808 A2 Transfer of rights to new applicant: Agilent Technologies Inc. a Delaware Corporation (2929950) 395 Page Mill Road Palo Alto, CA 94303 US

LANGUAGE (Publication, Procedural, Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200011	1176
SPEC A	(English)	200011	3438

Total word count - document A 4614

Total word count - document B 0

Total word count - documents A + B 4614

...INTERNATIONAL PATENT CLASS: G06F-001/14

...ABSTRACT synchronization protocol for a distributed system(10) or (100) including techniques for improving accuracy by **separating** a unique **timing** point (52) from a delimiter 54 for the **timing** data **packet** (18). The enhancements include techniques that compensate for **jitter** associated with communication circuitry in the distributed system (10) or (100) including **jitter** associated with physical interfaces and gateways in the distributed system. These techniques may involve specialized...

...data packets or the introduction of follow up packets (16) that inform receiving nodes of **measured** jitter or a combination of these techniques.

...SPECIFICATION unique timing point is detected. The difference between the time-stamp from the follow up **packet** and the local time value indicates a relative synchronization of the local clocks in the...

...nodes.

The enhancements disclosed herein include techniques for improving the accuracy in time synchronization by **separating** the unique **timing** point from a delimiter for the **timing** data **packet**. The enhancements include techniques that compensate for **jitter** associated with communication circuitry in the distributed system including **jitter** associated with physical interfaces and gateways in the distributed system. These techniques may involve specialized...

...timing data packets or the introduction of follow up packets that inform receiving nodes of **measured** jitter or a combination of these techniques.

Other features and advantages of the present invention...

00770510

Timing in a data communications network

Synchronisierung in einem Datenkommunikationsnetzwerk

Synchronisation dans un reseau de communication de donnees

PATENT ASSIGNEE:

Hewlett-Packard Company, (206030), 3000 Hanover Street, Palo Alto,  
California 94304, (US), (applicant designated states: DE;FR;GB)

INVENTOR:

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Cutler, Leonard S., 26944 Almaden Court, Los Altos Hills, CA 94022, (US)

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Johnson, James L., 558 Sugarload Road, Scotts Valley, CA 95066, (US)

LEGAL REPRESENTATIVE:

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Street, London WC2E 7PB, (GB)

PATENT (CC, No, Kind, Date): EP 722233 A2 960717 (Basic)

EP 722233 A3 971126

APPLICATION (CC, No, Date): EP 95309322 951220;

PRIORITY (CC, No, Date): US 360508 941221

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04J-003/06; G06F-001/14

ABSTRACT EP 722233 A2

A data communication network comprises a local clock (22) within a node (2) of the network which may be synchronized and syntonized by any node in the network. Each node contains a time packet detector (6) that detects and recognizes timing data packets and produces a recognition signal. Each node has a time server (10) that includes the local clock (22). The time server records the time of the recognition signal. The recorded time is used for correcting the local clocks of the various nodes (2) in the network. A transfer device such as a gateway, a bridge or a router may include a time server and a time packet detector to correct for the transit time of a time packet through such transfer device. The time packet detector (6) is connected at the point of final encoding for transmission or recovery of the clock and data. (see image in original document)

ABSTRACT WORD COUNT: 170

LEGAL STATUS (Type, Pub Date, Kind, Text):

Assignee: 010328 A2 Transfer of rights to new applicant:  
Hewlett-Packard Company, A Delaware Corporation  
(3016020) 3000 Hanover Street Palo Alto, CA  
94304 US

Application: 960717 A2 Published application (A1with Search Report  
;A2without Search Report)

Examination: 020717 A2 Date of dispatch of the first examination  
report: 20020604

Assignee: 011010 A2 Transfer of rights to new applicant: Agilent  
Technologies, Inc. (a Delaware corporation)  
(2885689) 395 Page Mill Road Palo Alto, CA  
94303 US

Assignee: 010801 A2 Transfer of rights to new applicant: Agilent  
Technologies Inc. (2929951) a Delaware  
Corporation 395 Page Mill Road Palo Alto, CA  
94303 US

Assignee: 010411 A2 Transfer of rights to new applicant:  
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(3016020) 3000 Hanover Street Palo Alto, CA  
94304 US  
Agilent Technologies, Inc. (2885687) 395 Page  
Mill Road Palo Alto, CA 94303 US

Assignee: 010418 A2 Transfer of rights to new applicant: Agilent

Technologies, Inc. (2885687) 395 Page Mill Road  
Palo Alto, CA 94303 US

Assignee: 010808 A2 Transfer of rights to new applicant: Agilent  
Technologies Inc. a Delaware Corporation  
(2929950) 395 Page Mill Road Palo Alto, CA  
94303 US

Assignee: 020116 A2 Transfer of rights to new applicant: Agilent  
Technologies, Inc. (a Delaware corporation)  
(2885689) 395 Page Mill Road Palo Alto, CA  
94303 US  
Hewlett-Packard Company (a Delaware  
corporation) (3016021) 3000 Hanover Street Palo  
Alto, CA 94304 US

Search Report: 971126 A3 Separate publication of the European or  
International search report

Examination: 980722 A2 Date of filing of request for examination:  
980525

LANGUAGE (Publication, Procedural, Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	2283
SPEC A	(English)	EPAB96	4459
Total word count - document A			6742
Total word count - document B			0
Total word count - documents A + B			6742

...INTERNATIONAL PATENT CLASS: G06F-001/14

...SPECIFICATION and actions required by the distributed algorithm.

Figures 12A and 12B illustrate the use of **timing packet** detectors  
to overcome **jitter** and delay in a **network**. Figure 12A illustrates  
the TPDs as **external** to the transfer device and Figure 12B illustrates  
the TPDs designed into a transfer device...

00573815

Digital jitter correction method and signal preconditioner.  
Verfahren zur Korrektur des digitalen Zitterus und  
Signalvorbereitungsanordnung.  
Procede de correction de la gigne numerique et dispositif de  
preconditionnement du signal.

PATENT ASSIGNEE:

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Sunnyvale, CA 94088, (US), (applicant designated states:  
BE;DE;DK;ES;FR;GB;GR;IE;IT;LU;NL;PT)

INVENTOR:

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Behrin, Michael N., 431 North 7th Street, No.B, San Jose, California  
95112, (US)

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WC1V 6SE, (GB)

PATENT (CC, No, Kind, Date): EP 575058 A1 931222 (Basic)

APPLICATION (CC, No, Date): EP 93304077 930526;

PRIORITY (CC, No, Date): US 901360 920619

DESIGNATED STATES: BE; DE; DK; ES; FR; GB; GR; IE; IT; LU; NL; PT

INTERNATIONAL PATENT CLASS: H04L-007/033 ; H04L-001/20

CITED PATENTS (EP A): US 4074358 A; US 4074358 A; GB 2176977 A; EP 11699 A

CITED REFERENCES (EP A):

I.B.M. TECHNICAL DISCLOSURE BULLETIN vol. 32, no. 5B, 1 October 1989, NEW  
YORK (US) pages 391 - 395 NOMEN NESCIOS 'NR/NRZI data  
modulation-demodulation';

ABSTRACT EP 575058 A1

Apparatus and methods for modifying an incoming binary serial data  
stream to reduce the Duty Cycle Distortion jitter which involves  
comparing the time between sequential transition and correcting the  
jitter by reducing the peak-to-peak distribution of said jitter. (see  
image in original document)

ABSTRACT WORD COUNT: 45

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 931222 A1 Published application (A1with Search Report  
;A2without Search Report)

Examination: 940525 A1 Date of filing of request for examination:  
940328

Change: 961204 A1 Representative (change)

Examination: 971008 A1 Date of despatch of first examination report:  
970821

Refusal: 990721 A1 Date on which the European patent application  
was refused: 990204

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	931
SPEC A	(English)	EPABF1	6207

Total word count - document A 7138

Total word count - document B 0

Total word count - documents A + B 7138

INTERNATIONAL PATENT CLASS: H04L-007/033 ...

... H04L-001/20

...SPECIFICATION a transmission link, phase noise arises which is  
exaggerated at the receiver end because of external electrical  
disturbances or changing physical parameters in the transmission link  
or channel. These are called timing jitter. To this date, reduction  
of jitter at the receiver end, caused by the transmission channel has

not been undertaken.

In the copending above referenced US application 07/901,335...

00571123

Non-intrusive network-based analysis of facsimile transmissions  
Beeinflussungsfreie Analyse basierend auf einem Netzwerk von  
Faksimileubertragungen

Analyse non-intrusive, basee sur un reseau, de transmissions en fac-simile  
PATENT ASSIGNEE:

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Krishnamurthy, Subramanian, 387 Middlewood Road, Middletown, New Jersey  
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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 561498 A2 930922 (Basic)  
EP 561498 A3 940105  
EP 561498 B1 020403

APPLICATION (CC, No, Date): EP 93300999 930211;

PRIORITY (CC, No, Date): US 839972 920221

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04M-003/22; H04L-012/26 ; H04N-001/00

CITED PATENTS (EP A): EP 233697 A; EP 233697 A; US 4076970 A; US 4076970 A;  
EP 309966 A; EP 474172 A; EP 366160 A; US 4381546 A

CITED PATENTS (EP B): EP 233679 A; EP 309966 A; EP 366160 A; EP 474172 A;  
US 4076970 A; US 4381546 A

CITED REFERENCES (EP A):

ELECTRONIC DESIGN vol. 31, no. 13, June 1983, HASBROUCK HEIGHTS, NEW  
JERSEY US pages 123 - 128 D.K. WILKIN 'Protocol Analyzer Speeds Comm.  
Network Maintenance';

CITED REFERENCES (EP B):

ELECTRONIC DESIGN vol. 31, no. 13 , June 1983 , HASBROUCK HEIGHTS, NEW  
JERSEY US pages 123 - 128 D.K. WILKIN 'Protocol Analyzer Speeds Comm.  
Network Maintenance';

ABSTRACT EP 561498 A2

Non-intrusive monitoring and analysis of real-time facsimile  
transmissions is accomplished. Analog impairment measurements are made on  
the high speed page signal in those transmissions and protocol analysis  
is made on the low speed control messages in those transmissions. These  
measurements and analysis are a powerful tool for trouble shooting  
service problems afflicting facsimile transmissions. Real customer  
traffic can be monitored to detect circuit impairments and to evaluate  
service being provided. A selected incoming trunk of a central office  
switch is accessed and a monitoring function with respect to that trunk  
is established. A signal classification operation (66) is performed,  
which identifies the presence of a facsimile transmission and what kind  
of facsimile transmission it is. When the classification operation has  
determined the presence and nature of a facsimile transmission, a series  
of non-intrusive impairment measurements is made (68) using the page  
information sent in the course of the facsimile transmission. Analog  
transmission impairments are identified along with signal to noise  
performance. Echo and delay measurements are also taken (70) and the  
protocols are tracked (72). The measurement data are collected (74) and  
analyzed (76) to ascertain whether or not the facsimile transmission was  
normal. A diagnostic module (76) uses the measurements to determine why  
any given transmission was abnormal. (see image in original document)

ABSTRACT WORD COUNT: 216

NOTE:

Figure number on first page: 7

LEGAL STATUS (Type, Pub Date, Kind, Text):  
Grant: 020403 B1 Granted patent  
Examination: 20000329 A2 Date of dispatch of the first examination report: 20000210  
Oppn None: 030326 B1 No opposition filed: 20030106  
Application: 930922 A2 Published application (A1with Search Report ;A2without Search Report)  
Search Report: 940105 A3 Separate publication of the European or International search report  
\*Assignee: 940622 A2 Applicant (name, address) (change)  
Examination: 940824 A2 Date of filing of request for examination: 940623  
\*Assignee: 941005 A2 Applicant (transfer of rights) (change): AT&T Corp. (589370) 32 Avenue of the Americas New York, NY 10013-2412 (US) (applicant designated states: DE;FR;GB)

LANGUAGE (Publication, Procedural, Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1235
CLAIMS B	(English)	200214	1186
CLAIMS B	(German)	200214	1056
CLAIMS B	(French)	200214	1438
SPEC A	(English)	EPABF1	17160
SPEC B	(English)	200214	17318
Total word count - document A			18396
Total word count - document B			20998
Total word count - documents A + B			39394

...INTERNATIONAL PATENT CLASS: H04L-012/26

...SPECIFICATION said paths and arranged to compensate for channel-impairment effects on the received signal. The **measurement** section is responsive to signals generated in the receiver section during the receipt of random data, to derive a **measurement** of at least one said channel impairment, such as phase or amplitude **jitter** .

Summary of the Invention

Apparatus and a **network** according to the invention are as set out in claims 1, 28 and 29. Preferred...

...claims.

Summary of the Invention

The need identified above is met by an apparatus which **non - intrusively** monitors real time facsimile transmissions as they are occurring in a network. The apparatus can...

...It may characterize the amount and kind of facsimile calls being made and it may **measure** certain characteristics of those calls. The apparatus may detect certain characteristics of protocol signals in...

01011214 \*\*Image available\*\*

SYSTEM AND METHOD TO PROVIDE ROUTING CONTROL OF INFORMATION OVER DATA NETWORKS  
Système et procédé de commande d'acheminement d'information sur des réseaux de données

Patent Applicant/Assignee:

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Inventor(s):

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JOHNSON Jeremy, 3913 Cerrito Avenue, Oakland, CA 94611, US,

Legal Representative:

BACKUS Kenneth (et al) (agent), 2225 E. Bayshore Road, Suite 200, Palo Alto, CA 94303, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200341342 A1 20030515 (WO 0341342)

Application: WO 2002US35158 20021101 (PCT/WO US0235158)

Priority Application: US 2001350186 20011102; US 200113809 20011207

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO  
RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW  
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR  
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04L-012/28

International Patent Class: H04J-003/14; G01R-031/08; G06F-015/16

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 18133

English Abstract

A system and a method for controlling routing of data over multiple networks. Accordingly, network users can define specific flow polices (90) to ensure that a particular flow of data traffic (95) maintains an acceptable level of performance, such as in terms of latency, loss, jitter, or an acceptable level usage that includes cost and bandwidth management across multiple networks.

French Abstract

L'invention concerne un système et un procédé de commande d'acheminement de données sur des réseaux multiples. Il s'ensuit que des utilisateurs de réseau peuvent définir des politiques spécifiques de flux (90) afin de faire en sorte qu'un flux particulier de trafic de données (95) soit maintenu à un niveau acceptable de performances, notamment en termes de retard, de perte, d'instabilité, ou à un niveau acceptable d'utilisation incluant une gestion de cout et de largeur de bande à travers des réseaux multiples.

Legal Status (Type, Date, Text)

Publication 20030515 A1 With international search report.

Main International Patent Class: H04L-012/28

... International Patent Class: G06F-015/16

Fulltext Availability:

Detailed Description

Detailed Description

... process of stateful monitoring of firewalls. Correlator 252 determines the current service level by measuring several traffic characteristics during a TCP transaction. For example, correlator 252

determines the round trip time ("RTT") incurred on a **network**, and hence, this serves as a **measure** of **latency** for the **network** traffic.

[0083] Figure 7 shows how coffelator 652 of **passive** flow analyzer 630 of Figure 6, placed near a source (e.g., client having a source address), can determine the **network latency** ("NL") and server response time ("SRT") for a **TCP** traffic stream. Figure 8 shows how correlator 652 of **passive** flow analyzer 630 of Figure 6, placed near a destination (e.g., server having a destination address), can determine the **network latency** ("NU") and server response time ("SRT") for a **TCP** traffic stream

[0084] Correlator 652 of Figure 6 determines NL, for example, by **estimating** the difference 791 of Figure 7 in time between a **TCP SYN** packet and its corresponding **TCP SYN ACK** packet. The difference in time between SYN and SYN ACK 791 is a rough **estimation** of the RTT excluding the small amount of time 790 that the server takes to...the previous value for the RTT has not changed beyond an operable range since the **TCP handshake** occurred. The **measurement** shown by 794 indicates that **measured** congestion increases in the path as SRT 792 correspondingly increases. For

purposes of this example, it is assumed that the data segments in the initial **HTTP GET** are sent back to back. In Figure 7, the **passive** flow analyzer 630 is deployed close to (i.e., minimal or negligible **latency** due to geographically different locations) the clients requesting content from the IP data **network**, such as the Internet.

[0087] Correlator 652 also determines SRT 892 of Figure 8, for example, by **estimating** the delta time between the **HTTP GET** message 993 and the first data segment 894...

00950756 \*\*Image available\*\*

**SYSTEM AND METHOD TO ASSURE NETWORK SERVICE LEVELS WITH INTELLIGENT ROUTING  
SYSTEME ET PROCEDE POUR ASSURER DES NIVEAUX DE SERVICES DE RESEAU AVEC  
ROUTAGE INTELLIGENT**

Patent Applicant/Assignee:

NETVMG INC, 1020 Rincon Circle, San Jose, CA 95131, US, US (Residence),  
US (Nationality)

Inventor(s):

KLINKER Eric, 480 South 21st Street, San Jose, CA 95115, US,  
JOHNSON Jeremy, 3913 Cerrito Avenue, Oakland, CA 94611, US,  
SEQUIERA Allwyn, 21225 Saratoga Hills Road, Saratoga, CA 95070, US,

Legal Representative:

BACKUS Kenneth R Jr (et al) (agent), Carr & Ferrell LLP, 2225 East  
Bayshore Road, Suite 200, Palo Alto, CA 94303, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200284951 A1 20021024 (WO 0284951)

Application: WO 2002US11357 20020410 (PCT/WO US0211357)

Priority Application: US 2001833219 20010410

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU  
CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO  
RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04L-012/28

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 19372

English Abstract

A method and system for maintaining a traffic service level for data communicated by a computer network having a source (USER1). The computer network is connected to at least one of many networks (82), where each of the many networks includes a number of paths (86) for transporting the data communicated to a destination (USER2, USER3). In one embodiment to the method, the traffic service level associated with one of the paths (86) between the source (USER1) and destination (USER2, USER3) is monitored. Then, it is determined whether the traffic service level associated with that path (86) meets one or more performance metrics. If a flow of data communicated over the monitored path (86) fails to meet at least one of the performance metrics, then a service level violation is indicated. Upon such an indication, an alternate path is selected to resolve the service level violation.

French Abstract

Cette invention se rapporte à un procédé et à un système servant à maintenir un niveau de services de trafic pour les données transmises par un réseau informatique ayant une source (UTILISATEUR1). Le réseau informatique est connecté à au moins un réseau parmi un grand nombre de réseaux (82), chacun de ces réseaux comprenant un certain nombre de voies (86) destinées à transporter les données transmises à une destination (UTILISATEUR2, UTILISATEUR3). Dans un mode de réalisation de ce procédé, le niveau de service de trafic associé à l'une des voies (86) entre la source (UTILISATEUR1) et la destination (UTILISATEUR2, UTILISATEUR3) est surveillé. On détermine ensuite si le niveau de service de trafic associé à cette voie (86) satisfait à une ou plusieurs mesures de performances. Si un flux de données transmises via la voie surveillée (86) ne satisfait pas à au moins l'une des mesures de performances, alors une violation de niveau de service est indiquée. Lors d'une telle indication, une autre

voie est selectionnee pour resoudre la violation de niveau de service.

Legal Status (Type, Date, Text)

Publication 20021024 A1 With international search report.

Publication 20021024 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Examination 20030313 Request for preliminary examination prior to end of 19th month from priority date

Main International Patent Class: H04L-012/28

Fulltext Availability:

Detailed Description

Detailed Description

... manner that 30% packet loss would.

Correlator 252 operates to interpret the elements (e.g., TCP and IP) from the packets to determine the current service level of the flow and then groups the **packets** into a specific traffic flow. The current service level as determined by correlator 252 is performed by **measuring** several traffic characteristics during a **TCP** transaction. For example, correlator 252 determines the round trip time ("RTT") incurred on a **network**, and hence, this serves as a **measure** of **latency** for the **network** traffic. Figure 7 shows how a correlator of **passive** flow analyzer 155 of Figure 6, placed near a source (i.e., client's source address), can determine the **network latency** ("NL") and server response time ("SRT") for a **TCP** traffic stream.

15/5, K/32 (Item 32 from file: 349)  
DIALOG(R) File 349:PCT FULLTEXT  
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00855100 \*\*Image available\*\*

IP PACKET IDENTIFICATION METHOD AND SYSTEM FOR TCP CONNECTION AND UDP STREAM

PROCEDE D'IDENTIFICATION DE PAQUETS DE DONNEES IP ET SYSTEME PERMETTANT LA CONNEXION TCP ET FLOT DE DONNEES UDP

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Priority Application: US 2000205280 20000518; US 2001264354 20010126

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

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International Patent Class: H04J-003/06; H04J-003/14

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 6484

English Abstract

A method of measuring jitter of a packet flow includes identifying the data packet flow at each of a first (102) and second (106) network locations by analyzing the data fields of each of the packets in the flow. The method associates a transmit time code with each packet transmitted from the first location (112), and associates the receive time code with each packet received at the second location (110). The method calculates inter-arrival times for consecutive pairs of packets by (i) subtracting the transmit time code of the first packet from the transmit time code of the second packet, (ii) subtracting the receive time code associated with the first packet from the receive time code associated with the second packet, and (iii) subtracting the results. The method includes calculating a jitter value as a smoothed version of two or more inter-arrival times, smoothed over a predetermined number of pairs of consecutive packets.

French Abstract

L'invention concerne un procede d'evaluation de la gigue d'un flot de paquets de donnees, consistant a identifier le flot de paquets de donnees a chacun des premier (102) et second (106) emplacements reseau en analysant les champs de donnees de chacun des paquets contenus dans le flot. Le procede consiste a associer un code de duree d'emission a chaque paquet transmis par le premier emplacement (112), puis a associer le code de duree de reception a chaque paquet recu au second emplacement (110). Le procede consiste a calculer des temps entre les arrivees pour les paires de paquets consecutives (i) par soustraction du code de duree de d'emission du premier paquet au code de duree de reception du second

paquet, (ii) par soustraction du code de duree de reception associe au premier paquet au code de duree de reception associe au second paquet, et (iii) par soustraction des resultats. Le procede consiste également a calculer une valeur de gigue comme version ajustee d'au moins deux temps entre les arrivees, ajustes sur un nombre predetermine de paires de paquets consecutifs.

Legal Status (Type, Date, Text)

Publication 20011122 A1 With international search report.

Examination 20020502 Request for preliminary examination prior to end of 19th month from priority date

Main International Patent Class: **G06F-017/30**

Fulltext Availability:

[Detailed Description](#)

[Detailed Description](#)

... related to the following U.S. applications, of common assignee.

[0005] "Non-Deterministic Software Delay **Estimation** Method And System For Packet Based Data Network Systems," U.S. Patent Application Serial No ...

...to measuring the packet jitter characteristics of packetized data networks.

[0011] The invention measures the **jitter** (also referred to herein as "packet **jitter**") of TCP connections or UDP streams without altering the behavior of the network. This type of **non - intrusive** measurement is also referred to herein as a "**passive** measurement." [0012] Packet **jitter** is an important characteristic of real-time traffic flows such as VoIP or streaming media (e.g., video). High **jitter** can often lead to poor quality of the media stream. **Jitter** is the overwhelming cause of poor quality in VoIP applications.

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DIALOG(R) File 349:PCT FULLTEXT  
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00546902 \*\*Image available\*\*

**BI-DIRECTIONAL COMMUNICATIONS PROTOCOL**  
**PROTOCOLE POUR COMMUNICATIONS BIDIRECTIONNELLES**

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ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT  
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UA UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD  
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International Patent Class: H04L-007/00

Publication Language: English

Fulltext Availability:

Detailed Description  
Claims

Fulltext Word Count: 5600

English Abstract

In a communications system wherein a sequence of data packets is produced by a packet source (29) and are transmitted as a data stream with a variable jitter, a method for synchronizing a receiving device relative to the sequence of data packets includes providing first and second data packets in the sequence at respective first and second input times. The first data packet is transmitted, and a measure of the jitter associated with the transmission of the first data packet is determined and written into the second data packet. After the second data packet is transmitted, the receiving device, having received the first and second data packets, uses the measure of the jitter in the second data packet to synchronize to the first input time.

French Abstract

La presente invention concerne un systeme de communications dans lequel une sequence de paquets de donnees est produite par une source de paquets (29) et ou les paquets de donnees sont emis sous forme d'un train de donnees dont l'instabilite est variable. L'invention concerne plus particulierement un procede de synchronisation entre un dispositif recepteur et une sequence de paquets de donnees. Ce procede consiste a placer dans la sequence le premier paquet de donnees a un premier instant d'entree puis le second paquet de donnees a un second instant d'entree. On realise l'envoi du premier paquet de donnees puis on mesure l'instabilite caracterisant l'envoi du premier paquet de donnees, mesure que l'on ecrit dans le second paquet de donnees. Apres envoi du second paquet de donnees, le dispositif recepteur, une fois qu'il a recu le premier et le second paquet de donnees, utilise la mesure d'instabilite inscrite dans le second paquet de donnees pour se caler sur le premier instant d'entree.

International Patent Class: H04L-007/00

Fulltext Availability:

Claims

Claim

... first and

M

4.

second input times;

transmitting the first data packet and determining a **measure** of the jitter

associated with the transmission of the first data packet;  
writing the measure...

...and second data packets and uses the measure of the jitter in the second data **packet** to synchronize to the first input time.

2 A method according to claim 1, wherein providing the first and second data **packets** comprises providing NTEG data, and wherein writing the measure of the **jitter** comprises writing the measure in an NTEG data field.

or

3 A method according to claim 1, wherein determining the measure of the **jitter** comprises **passively** sampling the data stream.

4 A method according to claim 3, wherein determining the measure of the **jitter** comprises filtering the sampled data stream to determine a delay at which the first data

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**packet** appears in the sampled data stream.

5 A method according to claim 3, wherein providing the first and second **packets** comprises inputting the **packets** to a multiplexer, and wherein **passively** sampling the data stream comprises sampling an output of the multiplexer.

6 A method according to claim 1, wherein writing the **measure** of the **jitter** comprises writing a modulo of the determined **measure**.

7 A method according to claim 1, wherein transmitting the first and second data **packets** comprises transmitting **packets** via a satellite link.

8 A method according to claim 1, and comprising:

Z@

receiving...

...receipt of

11

SUBSTITUTE SHEET (RULE 26)

PCT[US99/18324 the first packet;

reading the **measure** of the 'itter of the first data packet written into the second

J

data packet...